

Knit wiper for higher performance requirements

Made in Germany

The HDM wiper described below belongs to our SONIT® product line of high-tech wipers. It has a cleaning effectiveness one classification higher than MDM wipers. Here a special combination of microfilament yarns is used to increase cleaning effectiveness. The specially constructed characteristics of the yarns and their arrangement in the textile lead to an increase of liquid absorption per time unit. In this way, they enable comparatively faster cleaning and less liquid residues left on the surfaces after cleaning. The edges of this cloth are laser-cut and thermally consolidated on all four sides, a process which at the same time seals the particles and fibre fragments in the edge area. For precision cleaning of structured surfaces, SONIT®-HDM is the product of choice. The high degree of cleanness of this wiper – also due to its low content of selected ions – makes it a leading product for device and equipment cleaning in the semiconductor industry.

Characteristics

knitware from microfilament yarn, flat packs

Features

extended cleaning effectiveness, low fluid residue after wiping

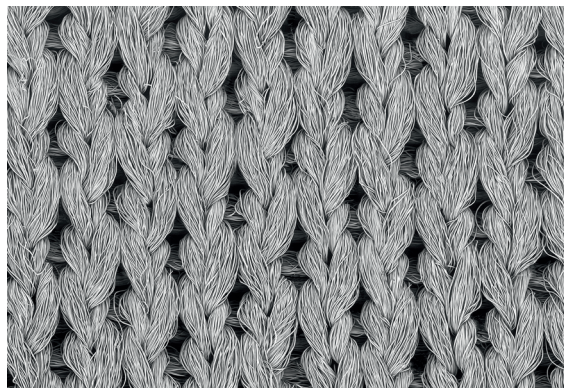
Application

for precision cleaning on all surfaces and equipment in the semiconductor industrie

General technical specification

Textile construction	knitware	
Mesh / cm ²	540	
Cutting	laser beam	
Possible decontamination	nonionic surfactant	
Decontaminated	yes	
Washable	possible	
Sterilisable	possible	
Stat. Quality control	yes	

The image on the right, taken with our scanning electron microscope, clearly shows the fineness of the yarn used to make this knitted wiper. The cloth is close-meshed, which makes it especially suitable for picking up small-dimensioned particles. Polyester yarns have a high tensile strength even in these small diameters, so that fibre breakage during cleaning work is rare in comparison to wiping cloths consisting partly of cellulose or viscose. This knitted wiper clings closely to the topography of the machine or technical surfaces, enabling efficient precision cleaning in relatively little time.



SEM photo Yuko Labuda, image height 3 mm

General technical data

Mechanical parameters	Value	Unit	After method
Thickness	0.60	mm	ISO 9073-2
Surface weight	185	g/m ²	ISO 9073-1
Break load dry, longitudinal direction	424	N	ISO 9073-3
Break load dry, lateral direction	460	N	ISO 9073-3
Elongation at break, longitudinal direction	86	mm	ISO 9073-3
Elongation at break, lateral direction	117	mm	ISO 9073-3

Particle release data	Value	Unit	After method
Labuda-Cleaning efficacy based on oil film MULTIDRAW KTL N 16	83.2	%	C&C-W-RE
Particle residue (Particle > 0.5 µm) after wiping on surface Rz 5 µm	3.0	k-Part/cm ²	C&C-W-PF-S
Particle residue (Particle > 0.5 µm) after wiping on surface Rz 39 µm	6.8	k-Part/cm ²	C&C-W-PF-S
Air particle release (at 40% relH) by Labuda Fulling Simulator Mk1	275	Part 0.5 µm/ min	
Cleanroom class according to ISO 14644-1	Cleanroom consumables cannot be specified for air purity classes (see VDI 2083 - sheet 9.2).		

Water absorption (DI water)	Value	Unit	After method
Total	431.2	g/m ²	
Average absorption rate in 5 s	0.44	g	C&C-W-AK-R
Average absorption rate in 60 s	0.7	g	C&C-W-AK-R
Drop absorption time	151	ms	C&C-W-EZ
DI-Water after wet wiping	6	%	C&C-W-RF

Chemical resistance	Value	Unit	After method
Charge of break-load (long) after 2.5 min immersion into various solvents			
Dry	424	N	C&C-W-CF
Water	-4	%	C&C-W-CF
Isopropyl	+11	%	C&C-W-CF
Acetone	+5	%	C&C-W-CF

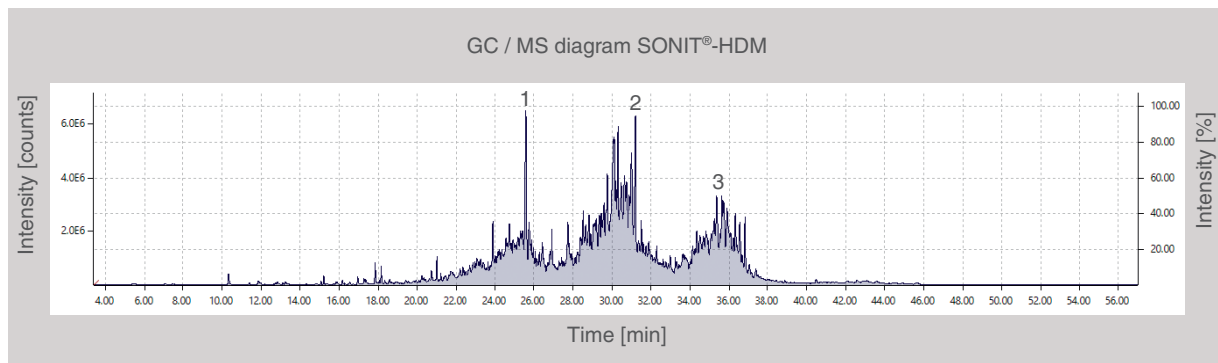
Triboelectricity at 40% relH and room temperature	Value	Unit	After method
Discharge after 60 s	50.0	%	CC-W-TE

Anion and cation inventory in ppm measurement with capillary electrophoresis

Chloride	Fluoride	Nitrate	Nitrite	Phosphate	Sulphate		
0.091	0.066	0.526	-	-	-		
Ammonium	Barium	Calcium	Potassium	Lithium	Magnesium	Sodium	Strontium
0.05	-	0.101	0.156	-	-	0.231	-

All data in this sheet are based on measurements taken at the time of their issuance. The publication of this document does not constitute a guarantee for the continued compliance with these data. On request, you will receive current data and tolerance limits from our laboratory. Subject to change without prior notice. Errors and omissions excepted. Clear & Clean is a company certified according to the EN ISO 9001 : 2015 standard. The quality assurance measures are described in our quality manual. When the data contained in this data sheet are changed, no automatic alteration is made. Clean room consumable products cannot be classified according to a clean room class for air purity according to ISO-14644-1.

SONIT® is a registered European Union trademark (No. 018305462) of Clear & Clean Werk für Reintechnik GmbH in Lübeck.



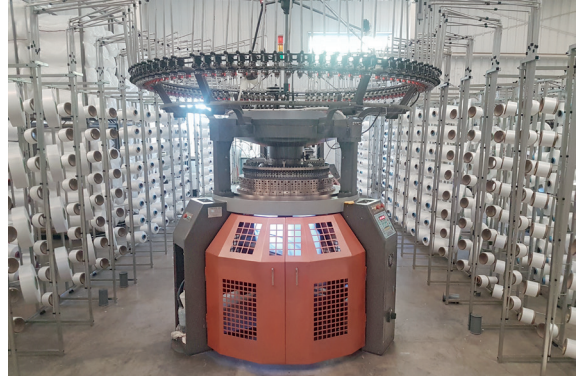
Outgassing at 90 ° C. 1: dodecanol 2: lauryl ethoxylate 3: hexadecanol

Order and packing information / single packs SONIT®-HDM							
Type	Dimensions in cm	Folding	Content pcs / pack	Packs per carton	Pieces per carton	Weight per carton in kg	Dimensions p. carton in cm
CC145	10 x 10	bulk pack	200	15	3000	6.5	50 x 30 x 30
CC146	23 x 23	bulk pack	50	30	1500	15.0	60 x 40 x 33
CC147	40 x 40	flat pack	50	5	250	8.0	50 x 30 x 30

From yarn to hi-tech cleaning wipers



knitted multifilament yarn as roll goods



an industrial knitting machine



our laser formatting for knit wipers



Example: our aquatic decontamination



our visual inspection and packaging in the ISO 5 clean room



Example: cleaning optical components